VERMILION RIVER CUTOFF (T/V-03)
T/V-03-MSPR-0896-1
PROGRESS REPORT NO. 1
for the period
February 16, 1996 to August 19, 1996

Project Description/Status

The Vermilion River Cutoff project was designed to protect and stabilize the shoreline along the east bank of the Vermilion River Cutoff and the adjacent wetlands, located in Vermilion Parish, La. (figure 1). The Vermilion River Cutoff was constructed in 1944 to connect the Vermilion River and the Gulf Intracoastal Waterway (GIWW) with Vermilion Bay for navigational purposes. Comparison of the 1995 and 1985 aerial photographs indicate a bay side shoreline erosion rate of 23.3 ft per year, assuming a constant annual erosion rate (LDNR 1991). Erosion on the east bank threatens to breach the land bridge between the cutoff and Onion Lake. In February 1996, a 6,520 ft rock breakwater was constructed parallel and intermittently connected to the eastern bank of the Vermilion River Cutoff (figure 2).

The project objectives are to maintain and protect approximately 54 acres of brackish marsh along the eastern side of the Vermilion River Cutoff and to prevent the Vermilion River Cutoff from widening into adjacent marshes and interior lakes. The specific goal of the project is to decrease the rate of shoreline erosion along the east bank of the Vermilion River Cutoff, adjacent to Onion Lake through the use of a rock breakwater.

Monitoring Design

Near-vertical, color-infrared aerial photographs (1:12,000 scale) were taken in November 1993 and will be taken at year 2, year 9, and year 17 to determine wetland gain/loss within the project area over time and whether the project is successful at retarding shoreline erosion. Continuous differential GPS data were collected at the mean high water line along the original shoreline adjacent to the breakwater and at the reference site (figure 1) in September 1995. The shoreline position will be measured every three years to calculate shoreline changes and movement over time. Paired t-tests or analysis of variance (ANOVA) will be used to detect shoreline changes over the postconstruction period. In addition, shoreline position will be compared to historical data sets available in digitized format for 1956, 1978, and 1988.

Results/Discussion

Only baseline data have been collected at this time. Near-vertical, color-infrared photographs will be flown again in February 1998, after which time two data sets will be available for interpretation. The shoreline surveys are to be repeated in February 1999, after which time two data sets will be available for analysis and interpretation.

References

United States Army Corps of Engineers and Louisiana Department of Natural Resources, Coastal Restoration Division. 1991. Vermilion River Cutoff (T/V-03), Candidate Project Information Sheet for Wetland Value Assessment. Baton Rouge: Coastal Restoration Division.

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Construction Start:	January 1, 1996	
Construction End:	February 16, 1996	